

composition, structure, and habitudes of a thin, watery film, are much better known than those of a lamina of India rubber,—we can reason with certainty respecting the one, and vary its composition to suit the purposes of experiment; the other affords no such advantage. If, however, it should eventually be found that the simple doctrine of absorption is not sufficient to explain all the phenomena of endosmosis that may hereafter be discovered, this paper will at least prove, that the cause of those phenomena are not alone enjoyed by *organic* and *solid* tissues, but also by *liquids* and *substances without organization*.

ART. II. *Cases, with Remarks.* By ASHBEL SMITH, M. D., of Salisbury, N. Carolina.

CASE I.—*Fungus Hæmatodes of the Eye—Extirpation—Not the slightest return of the disease since the operation, which was performed upwards of twelve months ago.*—York, a servant belonging to J. M. Roberts, Esq. was sent to me to be operated on for fungus hæmatodes of the right eye; of whom his master wrote me the following account:—"When York was *six months* old, a *white speck* first appeared in the sight of the eye, and continued gradually increasing and spreading, from that period until the last time I saw him. He is now ten years old. As to the family of York, he is the only one that has ever been attacked with a cancer, as far as I can learn." The patient arrived Oct. 16, 1834, and I operated the 7th of the following month. During this interval, a period of about three weeks, the tumour increased noticeably, and was at times very painful, especially at night. At the date of the operation, its circumference measured nine inches, embracing the eyelids, and it projected about one inch in front of the superciliary ridge. By its pressure, the whole of the right side of the face and nose was apparently enlarged and distorted. The tumour, externally, was tolerably smooth and irregularly hemispherical: its surface was very vascular, of a darkish red colour, here and there interspersed with a few paler, and other nearly livid spots; a small thin scab, with a little muco-purulent matter, commonly rested on the most exposed portions of it; it was peculiarly soft and elastic to the feel, especially at one point on its upper limb, where it gave to the finger the sensation of a fluid, covered only by a thin membrane: according to the patient, it was subject to bleed occasionally, though it did not appear to me extremely prone to take on

hæmorrhagic action: it was painful on being handled, and the patient sometimes (chiefly at night) complained, when no external cause had approached it. The eyelids were excessively stretched and covered about one-half the surface of the fungus, which projected between them: they were free from disease, except that the glands of Meibomius furnished a secretion rather more abundant and viscid than in their perfectly healthy condition. A few tears occasionally ran down over the cheek, whence I concluded the lachrymal gland was not greatly diseased. There was no trace visible of the original structure of the globe of the eye, except of the conjunctiva reflected from the upper lid over a small portion of the fungus. A single lymphatic gland lying on the parotid of the right side, somewhat tumefied, and painful on being handled, was the only glandular enlargement I discovered, unless I include a slight puffiness of the parotid itself. The skin, for a considerable extent about the tumour, had the peculiar discoloration of the cancerous cachexy strongly marked. The general health of the patient was tolerably good; he is sufficiently intelligent for his age and condition, and was anxious for the operation to be performed.

Nov. 7th, 1834.—The fungus was extirpated in the usual manner. After preparation, by attention to the diet and bowels for some days previously, the patient was firmly confined on his back, with his head somewhat elevated and supported by Dr. B. The lids were freely divided at their external and internal commissures, and dissected off from the tumour. On attempting to dissect the fungus from its adhesions to the edge of the orbit, there was a *furious* hæmorrhage. Immediately thereupon, a very narrow, curved, probe-pointed bistoury was introduced at the inner canthus, deep into the orbit, and in contact with the orbital plate of the ethmoid bone, and thence carried along the floor of the orbit to the outer canthus, Dr. B. meanwhile elevating the tumour with his fingers,—the incision was thence continued along the upper portion of the orbit, while the tumour was depressed, to the point where the knife was introduced. A slight adhesion, consisting mostly of the optic nerve, was readily divided. The removal of a small portion or two of the tumour and of the lachrymal gland left the orbit clear of every thing but its periosteum. The profuse hæmorrhage ceased in a good degree on the separation of the fungus; but the ophthalmic artery and some twigs near the nose still bled pretty freely; they were readily checked by torsion and compression for a few minutes. The socket was filled with lint, impacted with moderate firmness, and covered with a bandage, and the

patient put in bed. The next day he was permitted to walk about the house.

The subsequent treatment consisted in the occasional use of a saline purgative, and in restricting the patient to a vegetable diet for the five months that he remained at my house. I confined him to the use of *corn-bread* and *water, alone*, forbidding even all preparations of wheat, as far as was practicable. The only local application was filling the socket with dry lint, so as to make moderately firm compression on its parietes. Healthy granulations formed, and the orbit was filled very gradually, nearly to a level with its border, when the reparative process ceased. The lids contracted, slowly, to nearly their normal dimensions, and closed the aperture. The divisions of their commissures healed evenly, without any suture having been employed. No unhealthy granulations or fungous sprouting occurred to interrupt the cure. A letter from Col. Roberts, dated Nov. 22, 1835, upwards of a year after the operation, says:—"York is well, and has been so since he left you. His eye has the appearance of continuing well, and he (i. e. York) says he receives no pain whatever from it."

I am disposed to attribute no inconsiderable influence on the successful progress of this case to the moderate compression exerted by the dressings upon the granulating surfaces of the wound. Mr. Lawrence used to disapprove of filling the socket with lint, &c., an opinion which appears to me quite untenable, since the researches of Recamier have shown the effects of compression, not only in retarding, but even in curing morbid growths. Much, also, I think, is to be assigned to his diet, which was almost entirely of corn-bread and mush. Of the salutary effects of Indian corn,* as a constant article of food, I entertain at the present time a high opinion; whether a more extended observation will confirm it, I do not know.

An incision was made into the tumour after its removal. It was a tolerably firm substance, of a reddish colour, and presented no traces of the normal tissues of the eye, except the sclerotic coat, which was crowded to one side, and lying between the tumour and the adjacent

*The mention of Indian corn, leads me to state here a circumstance, not indeed connected with the present case, but of considerable interest, if I am right in my conjecture as to its cause. Calculous affections are of not unfrequent occurrence among the whites in this section of country. But, neither have I nor my medical brethren here, of whom I have made inquiry, known a case of calculus of the bladder in a negro in these parts. Indian corn is the almost universal bread-stuff on the plantations, together with a liberal allowance of meat, chiefly bacon, and game, as is used by their masters. Is this exemption from calculous disease attributable to their general use of Indian corn?

loose cellular membrane. The tumour contained a considerable quantity of fluid blood, and in its structure consisted of that vascular or fibro-vascular network, denominated *accidental erectile tissue*, or *fungus hæmatodes*, strictly speaking. The blood was washed, without much difficulty, out of the surfaces of the incision, which then assumed a dirty pearl colour, with a slightly reddish tinge, and exhibited, generally, the appearance of areolar tissue. Some portions, however, were more dense than others, so as to give the whole an irregularly striated appearance. The striæ or denser portions resemble what Laennec has rather incorrectly denominated *crude encephaloid tissue*.

So generally has fungus hæmatodes been regarded as connected essentially with some constitutional taint, and as almost certain to break out afresh after the removal of the local disease, that even in the few cases of alleged complete recovery after an operation, a doubt has arisen, whether the operators might not have been mistaken as to the nature of the tumours. For this reason, I have used especial pains to determine the real character of the tumour in the case I have related. Dr. J. Burns, who has witnessed undoubted cases of fungus hæmatodes terminating fatally, Dr. Lueco Mitchell, an excellent and experienced surgeon, and others, were clear as to the hæmatodal nature of the tumour; and my own observation in this disease, which has not been limited, left me in no doubt on this point previously to the operation. And this opinion was confirmed by the subsequent examination of the tumour, if the doctrines advanced by Andral, Velpeau, and others on the nature and pathology of fungus hæmatodes be correct. It may not, however, be amiss to observe here, that the substitution of the term *medullary fungus* for that of *fungus hæmatodes*, by several authors, seems to imply, that they regard as an *essential* characteristic of this disease, the presence of *softened encephaloid matter*, a substance which did not exist in any considerable masses, if at all, in the fungus I extirpated. On a late examination of this tumour, which has been preserved in alcohol, I obtained several particles of a moderately firm cerebriiform consistence, varying in size from the head of a pin to very small shot. I believe, however, they were only fibrinous coagula deprived of colouring matter.

In the case above related, the disease commenced within the globe of the eye, after the usual manner of fungus hæmatodes of this organ as described by Scarpa and others; it subsequently presented the symptoms and external appearances with the circumstances of age, &c. so commonly observed in this affection; it was clearly of a malignant character; that is, instead of disappearing or remaining indolent, it showed a decided tendency to invade the surrounding tissues, and

eventually to destroy life. Will the presence or absence of cerebri-form matter assist us in our prognosis after an operation in this disease?

According to most writers on this disease, "the morbid growth itself has, in almost every instance, the appearance of medullary matter;" (Frick;) but those pathological views which refer "all the morbid appearances to the effects of a *medullary* growth from the optic nerve" (Mackenzie) to a sort of hypertrophy of the nervous tissue, as I understand the expression, seem to me very defective and quite incorrect. (After a few quotations,) I will briefly relate another case, which appears to me to throw some light on the nature of erectile and medullary tumours; and the changes which take place in their anatomical elements.

Velpeau (Med. Operatoire I. 783, on Extirpation of the Eye) remarks: " * * * *fungus hæmatodes*, a mixture of encephaloid, erectile, colloid, melanic tissues, or one of these substances, *alone*, almost always forms the disease."

Weller, a pupil of Beer, who treated of this disease under the name of *fungus medullaris retinae*, relates a fatal case, (Diseases of the Eyes, vol. ii. 286-7 of French translation,) very similar in appearance, &c. to that of York. " * * The retina appeared at the bottom of the eye, like a concave plate, of silver. The eye was sightless, but indolent, and the patient, in other respects, in good health. * * * About three months before the death of the patient, this eye, which had been some time sensible, *rapidly increased in volume, projected between the eyelids, under the formæ, of a red mass, and finally acquired the size of a large apple.*" * * "An incision into the tumour after death, showed it to consist of a *firm fibro-vascular mass*, in which were no traces of the primitive organization of the parts," &c.

I have cited the *obiter dictum* of Velpeau, an accurate medical *literateur*, and some points of the case related by Weller, without attaching an importance to them, except showing that cerebri-form matter is not considered an essential constituent of hæmatodal tumours of the eye. But it is to Andral that we are indebted for the most sound, philosophical, and comprehensive views on morbid growths, in the present state of science.

The most obvious, and, at first blush, the most philosophical classification of tumours, would be one founded on their anatomical structure. But its defectiveness appears, when we find the same pathological process operating a variety of changes in the component parts of a morbid growth, with only a slight diversity in the symptoms, external appearances, or termination of the disease. The erectile, the scirrhus, the soft encephaloid tissues co-exist in the same tumour, which is

named after that tissue which predominates. Is the nature of the tumour changed, if, as frequently happens, it becomes mostly a mere mass of cerebriform matter?

"We might," says Andral, "multiply at will the number of species of these morbid productions, if to every variety of appearance it be deemed necessary to give a particular name. Laennec has done this, for one, in calling it encephaloid matter. But this creation of species, is, in my opinion, unphilosophical and useless to science. Of what importance are appearances here? That which is important, is to know, that, notwithstanding the diversity of appearances of these productions, they are all identically of the same nature, &c. *Precis d'Anatomie Pathologique*, i. 385. He regards the scirrhus and encephaloid tissues "as merely shades of the same morbid alteration, to wit, hypertrophy of the cellular tissue, existing either alone or united with some product of morbid secretion in the laminæ of this tissue." *Ibid*, i. 168. Fungus hæmatodes is a generic term, including several anatomical elements. "In the interior of this vascular development, (fungus hæmatodes or accidental erectile tissue,) other lesions of nutrition or secretion may take place. Thus, in more than one fungus hæmatodes, together with the very remarkable vascular network which constituted their basis, there have been found divers morbid productions, fibrous masses, scirrhus, pus, melanose matter," &c. *Ibid*, i. 178, 499.

As connected with this subject, I subjoin the following case of a malignant growth in a female breast:

CASE II. *Malignant Tumour of the Breast*.—I have before me a malignant tumour in a female breast, which I amputated a few weeks since. The tumour is supposed to have been occasioned by a slight bruise, upwards of a year ago; it was seated above and a little to the outside of the nipple; quite prominent, and somewhat larger than a hen's egg. When I first saw it, seven weeks before its removal, it was painful, of a darkish red colour, with the soft, elastic feel, common to erectile tumours, giving under the finger the sensation of a fluid, so distinctly, that a physician of much practice had lanced it, in expectation of finding matter; blood only flowed. The accidental abrasion of the skin on its surface to a considerable extent, about two weeks after I first saw it, exposed a surface which bled easily and freely, and which, on close examination, appeared to me to be accidental erectile tissue, quite similar to the fungus of York. Subsequently, small pimples, about the size of a pin's head, of a dirty yellowish-white colour, resembling pimples of the face when mature, appeared over the surface of the tumour. The patient, on picking some of them open, got a small quantity of hard curdy matter. These pimples did not disappear, but increased, though very slowly, and

new ones made their appearance. About the same period, the tumour, which had not increased in bulk noticeably, was gradually losing its soft elastic feel; and, at the time of its removal, some parts had acquired a scirrhus hardness. The appearance and increase of these pimples were synchronous with the commencing and increasing hardness of the tumour. Ulceration was just commencing when I amputated the breast. The tumour consisted of erectile tissue, *tissu lardacé* or scirrhus tissue, and *soft encephaloid* or *medullary* matter. The pimples were the extremities of masses of the *medullary matter*, which constituted about half of the entire tumour. The tissue *lardacé* was arranged in *strix*. I could discover no difference between the portions of the erectile tissue in this tumour and that of the eye described above.

At the time I first saw this tumour, it consisted, I believe, almost wholly of erectile tissue. This, in parts, gave place to, or was converted into scirrhus or crude encephaloid tissue of Laennec, about the same time that a deposition of cerebriform or encephaloid matter, rightly so called, was going on. It may be observed that the encephaloid matter existed as a foreign body in the tumour; for the ulcerative process rapidly succeeded on its deposition, thus completing the last step to the tumour's becoming an open cancer.

The changes that occurred in the principal anatomical elements of this morbid growth, after it came under my inspection, were to me satisfactorily ascertained. Whether it be more philosophical to consider the tumour as being of the same nature in its different states, or to regard the deposition of the medullary matter and the consequent incipient ulceration as operating a change in its nature, I will not venture to determine.

Salisbury, N. C.

ART. III. *Case of apparent Fallopian Menstrual Secretion.* By F. W. ADAMS, M. D., of Montpelier, Vermont.

Pathological facts, characterized by novelty and accuracy, are never valueless; nor can they fail to excite an intense interest with the ardent inquirer, whenever they are adapted to the illustration of disputed or undiscovered principles of functional phenomena.

However familiar the phenomena of the following case may be to others, to me they possess, at least, the interest of novelty, and, in